

RESEARCH ON SURVEILLANCE AND RELATED STUDIES OF SPORTS INJURY IN YOUTH  
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PURPOSE

The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) invites grant applications to conduct surveillance and related research projects on sports injury in youth.

HEALTHY PEOPLE 2000

The Public Health Service (PHS) is committed to achieving the health promotion and disease prevention objectives of "Healthy People 2000," a PHS-led national activity for setting priority areas. This Program Announcement, Research on Surveillance and Related Studies of Sports Injury in Youth, is related to the priority area of physical activity, fitness, and unintentional injuries. Potential applicants may obtain a copy of "Healthy People 2000" (Full Report: Stock No. 017-001-00474-0) or "Healthy People 2000" (Summary Report: Stock No. 017-001-00473-1) through the Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325 (telephone 202-783-3238).

ELIGIBILITY REQUIREMENTS

Applications may be submitted by domestic and foreign, non-profit and for-profit, public and private organizations, such as universities, colleges, hospitals, laboratories, units of State and Local governments, and eligible agencies of the Federal Government. However, foreign institutions are not eligible for the First Independent Research Support and Transition (FIRST)

Award (R29) and the career development awards (K04, K08, K11). Applications from minority individuals and women are encouraged.

## MECHANISMS OF SUPPORT

Support will be offered through research project grants (R01), FIRST Awards (R29), research fellowship training awards (F32, F33), and research career development awards (K04, K08, K11).

## RESEARCH OBJECTIVES

Sports and exercise activity in youth are critical to developing and maintaining physical fitness and general well-being. These fitness patterns established in youth may provide the basis for a healthy life-style throughout adult life. The occurrence of injuries has been accepted as a natural risk associated with exercise and especially with sports participation. Of the estimated 8 million youth participating in sports at the junior high and high school level, approximately 25 percent incurred some form of injury. Therefore, the physical and financial impact is significant.

One means of reducing these injuries is to understand the nature and risk factors for sports injuries and to seek preventive measures to reduce the occurrence. Injury surveillance approaches have led to important changes in rules and equipment to reduce the rate of injury. In one case, trampolines, the nature of the sport could not be modified to improve safety, therefore, the sport has been eliminated.

On April 8-9, 1991, at the Lister Hill Center of the NIH a conference was held on Sports Injuries in Youth: Surveillance Strategies. This meeting was co-sponsored by the National Advisory Board for Arthritis and Musculoskeletal and Skin Diseases, NIAMS, and the Centers for Disease Control. The purpose of the Conference was to examine the various factors required to develop and operate a surveillance system. Successful systems and problem areas were described. The resulting information will provide guidance for researchers entering areas of investigation involving development and utilization of reliable data bases in the field of scholastic sports injury. Published proceedings from the conference are available from the contact person listed below under INQUIRIES.

The epidemiologic definition of surveillance is the dynamic, close, and continued watchfulness over the distribution and trends of disease occurrence through systematic collection, tabulation, and analysis of relevant mortality and morbidity data. Essential steps in this process include data collection, entry, processing, analysis, interpretation, and presentation. A weakness in any of

these procedures may result in incomplete, inaccurate, improper, or poorly disseminated findings. One of the critical elements in analyzing sports surveillance data is the determination of the rate (incidence/number of persons at risk) of injury. For example, all players on a basketball team may not be at equal risk, since some may not even enter the game. Issues such as these are well defined in the conference proceedings.

The suggested areas for future research that were developed during the conference were defined in the proceedings as:

- o Developing surveillance systems for consistent national data collection;
- o Developing a national sports injury data base;
- o Injury characterization and intervention schemes;
- o Coordination of data from diverse sources;
- o Developing methods for "small area sampling" of special injury situations;
- o Evaluating re-injury rates and risks;
- o Expanding surveillance to include intramural and extra-scholastic sports;
- o Expanding injury surveillance to include primary grades;
- o Comparing injury rates and conditions to college and professional sports;
- o Considering a wide range of external factors that may add to risks; and
- o Developing and evaluating instructional prevention programs.

These areas of research are neither prioritized nor meant to be restrictive. Investigators are encouraged to submit applications in any meritorious area of research responsive to the general research objectives of this Program Announcement. In addition to projects that specifically address surveillance methodology to uncover risks of and the nature of injuries, the NIAMS will consider to be responsive to this announcement applications that include biomechanical, biochemical, or other approaches to elucidating the mechanism of injury. Such related studies

should either (1) be a component of applications for surveillance-based research or (2) be based on the findings of other surveillance data indicating that a particular mechanism may be the cause of injury.

The project should be founded on a strong hypothesis as evidenced by preliminary data of the investigator or others. All data collection and statistical procedures should be fully defined and justified.

## STUDY POPULATIONS

### SPECIAL INSTRUCTIONS TO APPLICANTS REGARDING IMPLEMENTATION OF NIH POLICIES CONCERNING INCLUSION OF WOMEN AND MINORITIES IN CLINICAL RESEARCH STUDY POPULATIONS

NIH and ADAMHA policy is that applicants for NIH/ADAMHA clinical research grants and cooperative agreements are required to include minorities and women in study populations so that research findings can be of benefit to all persons at risk of the disease, disorder or condition under study. Special emphasis must be placed on the need for inclusion of minorities and women in studies of diseases, disorders and conditions which disproportionately affect them. This policy is intended to apply to males and females of all ages. If women or minorities are excluded or inadequately represented in clinical research, particularly in proposed population-based studies, a clear compelling rationale must be provided.

The composition of the proposed study population must be described in terms of gender and racial/ethnic group. In addition, gender and racial/ethnic issues should be addressed in developing a research design and sample size appropriate for the scientific objectives of the study. This information must be included in Form PHS 398 in Sections 1-4 of the Research Plan and then summarized in Section 5, Human Subjects. Applicants are urged to assess carefully the feasibility of including the broadest possible representation of minority groups. However, NIH recognizes that it may not be feasible or appropriate in all research projects to include representation of the full array of United States racial/ethnic minority populations (i.e., Native Americans (including American Indians or Alaskan Natives), Asian/Pacific Islanders, Blacks, and Hispanics). The rationale for studies on single minority population groups must be provided.

For the purpose of this policy, clinical research is defined as human biomedical and behavioral studies of etiology, epidemiology, prevention (and preventive strategies), diagnosis, or treatment of diseases, disorders or conditions, including, but not limited to, clinical trials.

The usual NIH policies concerning research on human subjects also apply. Basic research or clinical studies in which human tissues cannot be identified or linked to individuals are excluded. However, every effort should be made to include human tissues from women and racial/ethnic minorities when it is important to apply the results of the study broadly, and this should be addressed by applicants.

For foreign awards, the policy on inclusion of women applies fully; since the definition of minority differs in other countries, the applicant must discuss the relevance of research involving foreign population groups to the United States' populations, including minorities. If the required information is not contained within the application, the review will be deferred until the information is provided.

Peer reviewers will address specifically whether the research plan in the application conforms to these policies. If the representation of women or minorities in a study design is inadequate to answer the scientific question(s) addressed and the justification for the selected study population is inadequate, it will be considered a scientific weakness or deficiency in the study design and will be reflected in the priority score assigned to the application.

All applications for clinical research submitted to NIH are required to address these policies. NIH funding components will not award grants or cooperative agreements that do not comply with these policies.

## APPLICATION PROCEDURES

Applications are to be submitted on grant application form PHS 398 (rev. 9/91), except for individual fellowship applications which must be submitted on form PHS 416-1 (rev. 10/91). Applications will be accepted at the standard application deadlines indicated in the application kits.

Application kits are available at most institutional business offices and may also be obtained from the Office of Grants Inquiries, Division of Research Grants, National Institutes of Health, Westwood Building, Room 449, Bethesda, MD 20892, telephone 301/496-7441. The title and number of the announcement must be typed in Section 2a on the face page of form PHS 398.

The completed original application and five legible copies of form PHS 398 or two copies of form PHS 416-1 must be sent or delivered to:

Division of Research Grants  
National Institutes of Health  
Westwood Building, Room 240  
Bethesda, MD 20892\*\*

## REVIEW CONSIDERATIONS

Applications will be assigned on the basis of established Public Health Service referral guidelines. Applications will be reviewed for scientific and technical merit by initial review groups of the Division of Research Grants, NIH, or by the review group of the appropriate Institute, Center, or Division (ICD), in accordance with the standard NIH peer review procedures. Following scientific-technical review, applications will receive a second-level review by the appropriate national advisory council.

## AWARD CRITERIA

Applications will compete for available funds with all other approved applications assigned to that ICD. The following criteria will be considered in the making of funding decisions:

- o Quality of the proposed project as determined by peer review;
- o Availability of funds; and
- o Program balance among research areas of the announcement.

## INQUIRIES

Written and telephone inquiries are encouraged. The opportunity to clarify any issues or questions from potential applicants is welcome.

Direct inquiries regarding programmatic issues to:

Stephen L. Gordon, Ph.D.  
Chief, Musculoskeletal Diseases Branch  
National Institute of Arthritis and Musculoskeletal and Skin Diseases  
Westwood Building, Room 407  
5333 Westbard Avenue  
Bethesda, MD 20892  
Telephone: (301) 402-3338

Direct inquiries regarding fiscal matters to:

Ms. G. Carol Clearfield

National Institute of Arthritis and Musculoskeletal and Skin Diseases

Westwood Building, Room 726B

5333 Westbard Avenue

Bethesda, MD 20892

Telephone: (301) 402-3360

#### AUTHORITY AND REGULATIONS

This program is described in the Catalog of Federal Domestic Assistance No. 93.846, (Arthritis, Musculoskeletal and Skin Disease Research). Awards will be made under the authority of the Public Health Service Act, Title III, Section 301 (Public Law 410, 78th Congress, as amended, 42 USC 241) and administered under PHS grants policies and Federal Regulations 42 CFR 52 and 45 CFR Part 74. This program is not subject to the intergovernmental review requirements of Executive Order 12372 or Health Systems Agency review.

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